

What Is Claimed Is:

1. A method for fabricating an apodized optical fiber grating using an ultraviolet light source, a lens field for converging the light incident from the ultraviolet light source, an amplitude mask for selectively transmitting therethrough the ultraviolet light incident from the lens field onto an optical fiber, the method comprising the steps of:

a first step of setting a cycle of the optical fiber grating formed on the optical fiber and a width of each stripe pattern;

a second step of setting a longitudinal ratio, which is a ratio of the distance between a converging point of the lens field and the amplitude mask and the distance between the converging point of the lens field and the optical fiber;

a third step of setting a cycle of the amplitude mask so as to unify a transverse ratio, which is a ratio of the cycle of the amplitude mask and the cycle of the optical fiber grating, with the longitudinal ratio set in the second step; and

a fourth step of setting a thickness of the amplitude mask so as to match the pattern of the optical fiber grating set in the first step with the pattern of an optical distribution on the injecting surface of the mask.

2. The fabrication method of claim 1, wherein the ultraviolet light source is an excimer laser.

3. The method of Claim 1, wherein the lens field consists of at least one

cylindrical convex lens and at least one concave lens.

4. The method of Claim 3, wherein the converging point of the lens field is adjusted by selectively varying the distance between the cylindrical convex lens and
5 concave lens.

5. The method of Claim 1, wherein the first step further comprises the step of exposing the ultraviolet light through the amplitude mask.

6. The method of claim 1, wherein the fourth step further comprises the step of exposing the ultraviolet light through the amplitude mask.

7. The method of claim 1, wherein the slit width of the amplitude mask is substantially greater than the wavelength of the incident light transmitted from the lens field.